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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,298	POPESCU ET AL.	
	Examiner	Art Unit	
	ANTHONY MEJIA	2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09/17/2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-10 and 21-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-10 and 21-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made that Claims 1-2 and 26-28 have been amended and are pending in the instant application. Claims 6 and 11-20 remain canceled.

2. Amendment to Claim 1 in response to examiner's objection to the Claim has been considered. The amendment obviates previously raised objection, as such this objection hereby withdrawn.

3. Amendment to Claims 26-28 in response to examiner's objection to the specification has been considered. The amendment obviates previously raised objection, as such this objection hereby withdrawn.

4. Amendment to Claims 26-28 in response to examiner's rejection under 35 U.S.C. 101 has been considered. The amendment obviates previously raised rejection, as such this rejection hereby withdrawn.

Response to Arguments

5. Applicant's arguments see pages 7-10 of Remarks filed **17 September 2010** with respect to Claims 1-5, 7-10 and 21-28, rejection under 35 U.S.C. 103 (a) have been fully considered but are have been fully considered but they are not persuasive.

6. As per Claims 1, 22, and 24, Applicants explicitly allege that Harmer in view of Schuetze fails to disclose or suggest creating a single (i.e. unified) feature vector based on a user's communication interest, on network attributes, ***such that the single feature***

vector comprises features extracted from a plurality of different types of sources

(emphasis added).

As to the alleged argument above, Examiner respectfully disagrees. Harmer in view of Schuetze clearly teaches the step of forming a single feature vector (wherein a single feature vector is being interpreted hereinafter as an n-dimensional vector of numerical features that represent some object, see Wikipedia (http://en.wikipedia.org/wiki/Feature_vector)) for a community of different interests for different users (e.g., different feature(s) or a combination of features that are selected and used to define an aggregate similarity measure, col.4, lines 36-51, col.5, lines 21-41, col.7, lines 44-61, col.10, lines 26-47 col.30, lines 23-28, and col.37, lines 1-15), such that each single feature vector comprises features extracted from a plurality of different types of sources (users) (col.7, lines 43-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the common practiced teachings of Schuetze in the teachings of Harmer to manipulate the obtained communication interests, network attributes, and application attributes in a single feature vector in order to find other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/ Schuetze to help users find other users who share similar interests as them on a given network.

Specifically, Schuetze discloses an advantageous data representation model in which document (***and user***) features are embedded into multi-dimensional vector

spaces. This data representation model facilitates the use of a consistent and symmetric similarity measure, which will be described in detail below. With the data representation and similarity models set forth herein, ***it is possible to represent users and clusters of users based on the contents and features of the documents accessed by those users (i.e., collection use data), thereby improving the ability to cluster users according to their similarities*** (col.7, lines 43-54).

7. As per Claims, 3-4, 7-10, and 23-28, Applicant's arguments, see pages 11-17 of Remarks have been fully considered but they are not persuasive for the same reasons discussed above.

8. As per Claims 5 and 21, Applicant's arguments, see pages 14-15 and 17-19 of Remarks have been fully considered but they are not persuasive.

Applicants explicitly allege that Harmer in view of George in further view of Schuetze and in further view of Solotorevsky2 fails to disclose or suggest creating a single (i.e. unified) feature vector based on a user's communication interest, on network attributes, ***such that the single feature vector comprises features extracted from a plurality of different types of sources*** (emphasis added).

As to the alleged argument above, Examiner respectfully disagrees. Harmer in clearly teaches the step of forming a single feature vector (wherein a single feature vector is being interpreted hereinafter as an n-dimensional vector of numerical features that represent some object, see Wikipedia (http://en.wikipedia.org/wiki/Feature_vector)) for a community of different interests for different users (e.g., different feature(s) or a

combination of features that are selected and used to define an aggregate similarity measure, col.4, lines 36-51, col.5, lines 21-41, col.7, lines 44-61, col.10, lines 26-47 col.30, lines 23-28, and col.37, lines 1-15), such that each single feature vector comprises features extracted from a plurality of different types of sources (users) (col.7, lines 43-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the common practiced teachings of Schuetze in the teachings of Harmer to manipulate the obtained communication interests, network attributes, and application attributes in a single feature vector in order to find other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/ Schuetze to help users find other users who share similar interests as them on a given network.

Specifically, Schuetze discloses an advantageous data representation model in which document (***and user***) features are embedded into multi-dimensional vector spaces. This data representation model facilitates the use of a consistent and symmetric similarity measure, which will be described in detail below. With the data representation and similarity models set forth herein, ***it is possible to represent users and clusters of users based on the contents and features of the documents accessed by those users (i.e., collection use data), thereby improving the ability to cluster users according to their similarities*** (col.7, lines 43-54).

In further, Applicants note specifically on pages 14-15 and 18-19 of Remarks, that that Solotorevsky is the U.S. National Phase entry of Patent Cooperation Treaty International Publication No. WO 03/043253 (published May 22, 2003, hereinafter "Solotorevsky 2"). In a previous Office Action, the Examiner noted that "the combined teachings of Solotorevsky [2]/George/Cetintemel do not explicitly teach wherein the method comprises the steps of forming network delay maps and on the forward capacity maps from the obtained network attributes, and such that clustering is based on the formed network delay maps and on forward capacity maps," (See, Office Action dated November 24, 2009, Pages 15-16). If Solotorevsky 2 does not teach these features (alone or even in combination with other references), then it follows that Solotorevsky also cannot teach these features (since, as discussed above. Solotorevsky is merely the U.S. National Phase entry of Solotorevsky 2). Thus, the Applicants respectfully submit that claim 5 is not unpatentable over Harmer in view of George and Schuetze and further in view of Solotorevsky for these additional reasons.

As to the argument above, Examiner notes that on the cited Office Action, dated November 24, 2009, Pages 15-16, Examiner relies solely on **Solotorevsky 2 (US 2005/0010571)** to teach the step of forming forward capacity maps (e.g., maps calculated requirements such as forward capacity (e.g., bandwidth capacity) in a graphical representation of the network, par [0056], as demonstrated in fig.3 and network delay maps (e.g., delay, if is a network requirement that is calculated, may also be demonstrated in a graphical representation of the network as discussed in par [0060]), such that clustering is based on the formed network delay maps and on forward

capacity maps (e.g., for each expected network requirement, each expected network requirement may be mapped to the elements of the symbolic network representation and its probability to demand the type of use it needs may be derived from (e.g., delay and bandwidth capacity), par [0060]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Solotorevsky 2 in Harmer/George/Scheutze to be able to have a symbolic representation of the constraints on the network. One of the ordinary skill in the art at the time the invention was made, would have been motivated to combine the teachings of Harmer/George/Scheutze and Solotorevsky 2 to be able to visually analyze a network map based on the specific network attributes and constraints that were obtained.

It is further noted by Examiner, that in the previous Office Action dated 17 June 2010, upon further consideration, a new grounds of rejection was made (see page 2 of Office Action) in which Examiner did not rely on Solotorevsky No. WO 03/043253 as argued by applicants.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer ("Mobile Aware Multimedia Applications for UMTS: the ACTS On The Move Project") (referred hereinafter as Harmer) and in further view of Scheutze et al. (US 6,922,699) (referred hereinafter as Scheutze).

Regarding Claim 1, Harmer teaches a method comprising the steps of:

obtaining a user's communication interest (see page 540, left-hand column, lines 30-33).

obtaining network attributes (see page 540, left-hand column, lines 39 to right-hand column, lines 2);

obtaining application attributes (see page 540, left-hand column, lines 33-36);

forming a data structure (profile, wherein a profile is being interpreted as a computer language to match, score, and retrieve statistical data such as a unique identifier that indicates a set of communications parameters values to be used in establishing a physical session, see IEEE 100 "The Authorative Dictionary of IEEE Standards Terms", 7th Ed.)) based on the communication interest, network attributes, and application attributes (e.g., profiles are created and used to store and retrieve information about user preferences, terminal, and network characteristics, see page 540, left-hand column, lines 15-36, right-hand column lines 1-9 and Table 1).

Harmer does not explicitly teach wherein the data structure formed is a single feature vector, such that each single feature vector comprises features extracted from a plurality of different types of sources.

However, Schuetze in a similar field of endeavor discloses a system and method for quantitatively representing data objects in a vector space including the steps of:

forming a single feature vector (wherein a single feature vector is being interpreted hereinafter as an n-dimensional vector of numerical features that represent some object, see Wikipedia (http://en.wikipedia.org/wiki/Feature_vector)) for a community of different interests for different users (e.g., different feature(s) or a combination of features that are selected and used to define an aggregate similarity measure, col.4, lines 36-51, col.5, lines 21-41, col.7, lines 44-61, col.10, lines 26-47 col.30, lines 23-28, and col.37, lines 1-15), such that each single feature vector comprises features extracted from a plurality of different types of sources (users) (col.7, lines 43-54);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the common practiced teachings of Schuetze in the teachings of Harmer to manipulate the obtained communication interests, network attributes, and application attributes in a single feature vector in order to find other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/ Schuetze to help users find other users who share similar interests as them on a given network.

Regarding Claim 22, the combined teachings of Harmer and Schuetze teach the method of claim 1 as discussed above.

The combined teachings of Harmer and Schuetze further teach the step of:

obtaining application attributes includes obtaining information regarding collaborative usage of the application (Harmer: see page 540, left-hand column, lines 33-39).

Regarding Claim 24, the combined teachings of Harmer and Schuetze teach the method of claim 1 as discussed above.

The combined teachings of Harmer and Schuetze further teach the step wherein the method further includes the step such that clustering is based on bandwidth constraints (Harmer: see page 540, left-hand column, lines 33-39).

9. Claims 2, 7, 9, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of George et al. (US 6.994, 645) (referred herein after as George) and in further view of Scheutze.

Regarding Claim 2, Harmer teaches a method comprising the steps of:

obtaining network attributes from a network having a plurality of nodes (see page 540, left-hand column, lines 39 to right-hand column, lines 2); and

obtaining application attributes of an application (see page 540, left-hand column, lines 33-36);

Harmer does not explicitly teach the step of:

obtaining user communication interests represented by at least one of:

a user request for a content update or a user subscription to a specific data item or to a set of proximal data sources.

However, George in a similar field of discloses a method and system for customizing electronic communications including wherein a communication interest of a user is represented by a user request for content update (changing a customer's requested mailing date because new information has been loaded into the content database, col.5, lines 3-8) or user subscription (subscription) to a specific data item (newsletter), or to a set of proximal data sources (based on the demographic and public information obtained, one of ordinary skill in the art at the time the invention was made, would appreciate that a proximal data source may then be located based on this obtained data), (col.3, lines 3-9, 15-31, 38-47, and col.4, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of George in the teachings of Harmer in order to properly measure the similarities of users' communications interests. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/George to enrich the interaction between the participants (e.g., vendors/users) of the system (George: col.5, lines 16-19).

The combined teachings of Harmer and George do not explicitly teach the steps of:

forming a plurality of feature vectors, one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on the user's communication interest, network attributes, and application attributes, such that each single one of the

plurality of feature vectors comprises features extracted from a plurality of different types of sources; nor

clustering the network nodes based on the plurality of feature vectors

However, Schuetze in a similar field of endeavor discloses a system and method for quantitatively representing data objects in a vector space including the steps of:

forming a plurality of feature vectors (set of feature vectors), one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on chosen features (col.4, lines 36-51, col.7, lines 44-61, col.10, lines 26-47 col.30, lines 23-28, and col.37, lines 1-15), such that each single one of the plurality of feature vectors comprises features extracted from a plurality of different types of sources (users) (col.7, lines 43-54); and

clustering the network nodes based on the plurality of feature vectors (Schuetze: e.g., data representation model in which user features are embedded into multi-dimensional vector spaces, which facilitates the use of a consistent and symmetric similarity measure, (e.g., different feature(s) or a combination of features that are selected and used to define an aggregate similarity measure col.4, lines 36-51, col.5, lines 21-29, col.7, lines 44-61, col.30, lines 23-28, and col.37, lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Schuetze in the combined teachings of Harmer and George to manipulate the obtained communication interests, network attributes, and application attributes in a single feature vector in order to find other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in

the art at the time the invention was made would have been motivated to combine the teachings of Harmer/George and Schuetze to help users find other users who share similar interests as them on a given network.

Regarding Claim 7, the combined teachings of Harmer/George/Schuetze teach the method of claim 2 as discussed above.

The combined teachings of Harmer/George/Schuetze further teach the step of:

obtaining application attributes includes obtaining information regarding collaborative usage of the application (Harmer: see page 540, left-hand column, lines 33-39).

Regarding Claim 9, the combined teachings of Harmer/George/Schuetze teach the method of claim 2 as discussed above.

The combined teachings of Harmer/George/Schuetze further teach the step wherein the method further includes the step such that clustering is based on bandwidth constraints (Harmer: see page 540, left-hand column, lines 33-39).

Regarding Claim 26, Harmer teaches a computer readable storage medium containing an executable program for clustering a multi-type vector space, where the program performs the steps of:

obtaining network attributes from a network having a plurality of nodes (see page 540, left-hand column, lines 39 to right-hand column, lines 15-36 and see table 1); and

obtaining application attributes of an application (see page 540, left-hand column, lines 15-36 and see table 1);

Harmer does not explicitly teach the step of:

obtaining user communication interests represented by at least one of:

a user request for a content update or a user subscription to a specific data item or to a set of proximal data sources.

However, George in a similar field of discloses a method and system for customizing electronic communications including wherein a communication interest of a user is represented by a user request for content update (changing a customer's requested mailing date because new information has been loaded into the content database, col.5, lines 3-8) or user subscription (subscription) to a specific data item (newsletter), or to a set of proximal data sources (based on the demographic and public information obtained, one of ordinary skill in the art at the time the invention was made, would appreciate that a proximal data source may then be located based on this obtained data), (col.3, lines 3-9, 15-31, 38-47, and col.4, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of George in the teachings of Harmer in order to properly measure the similarities of users' communications interests. One of ordinary skill in the art at the time the invention was made would have been motivated

to combine the teachings of Harmer/George to enrich the interaction between the participants (e.g., vendors/users) of the system (George: col.5, lines 16-19).

The combined teachings of Harmer and George do not explicitly teach the steps of:

forming a plurality of feature vectors, one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on the user's communication interest, network attributes, and application attributes, such that each single one of the plurality of feature vectors comprises features extracted from a plurality of different types of sources (col.7, lines 43-54); nor

clustering the network nodes based on the plurality of feature vectors

However, Schuetze in a similar field of endeavor discloses a system and method for quantitatively representing data objects in a vector space including the steps of:

forming a plurality of feature vectors (set of feature vectors), one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on chosen features (Schuetze: e.g., different feature(s) or a combination of features that are selected and used to define an aggregate similarity measure col.4, lines 36-51, col.5, lines 21-41, col.7, lines 44-61, col.10, lines 26-47 col.30, lines 23-28, and col.37, lines 1-15) such that each single one of the plurality of feature vectors comprises features extracted from a plurality of different types of sources (users) (col.7, lines 43-54); and

clustering the network nodes based on the plurality of feature vectors (Schuetze: e.g., data representation model in which user features are embedded into multi-

dimensional vector spaces, which facilitates the use of a consistent and symmetric similarity measure, col.4, lines 36-51, col.7, lines 44-61, col.30, lines 23-28, and col.37, lines 1-15)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Schuetze in the combined teachings of Harmer and George to manipulate the obtained communication interests, network attributes, and application attributes in a single feature vector in order to find other users that have similar feature vectors in a multi-dimensional space. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/George and Schuetze to help users find other users who share similar interests as them on a given network.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of George in further view of Scheutze and in further view of Grimm et al. (US 5,828,843) (referred herein after Grimm).

Regarding Claim 8, the combined teachings of Harmer/George/Schuetze teach the method of claim 2 as discussed above.

The combined teachings of Harmer/George/Scheutze do not explicitly teach the step of:

obtaining network path loss information, and such that clustering is based on the path loss information.

However, Grimm in a similar field of endeavor discloses an object-oriented method for matching clients together with servers according to attributes included in joint request including the step for:

obtaining network path loss information (e.g., packet-loss rate, col.8, lines 65-66), and such that clustering is based on the path loss information (e.g., match maker will consider network path loss (packet-loss rate) as part of matching up clients, col.9, lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Grimm in the combined teachings of Harmer/George/Scheutze to obtain network path loss information and to cluster clients based on this information. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Harmer/George/Scheutze/Grimm to help optimize the functionalities of collaborative applications according to obtained network attributes on the system.

12. Claims 3-4, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of George and in further view of Scheutze and yet in further view of Johnson (US. 6,078,946) (referred herein after as Johnson).

Regarding Claim 3, the combined teachings of Harmer/George/Schuetze teach the method of claim 2 as discussed above.

The combined teachings of Harmer/George/Scheutze do not explicitly teach clustering that is performed by a fusion method in which one or more plurality of nodes

are clustered in each attribute space on subspace classifiers.

However Johnson, in a similar field of endeavor, teaches a system and method for management of connection oriented networks including the step of:

clustering that is performed by a fusion method (where a fusion method is interpreted as being a subspace classification) in which one or more of said pluralities of nodes are clustered in each attribute space on subspace classifiers (col.10, lines 14-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Johnson in Harmer /George/ Scheutze in order to consider additional sub-attributes. One of the ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/George/Scheutze/Johnson to produce effective mutually dependent outcomes of the attributes used for the communication in the network.

Regarding Claim 4, the combined teachings of Harmer/George/Scheutze teach the method of claim 2 as discussed above.

The combined teachings of Harmer/George/Scheutze do not explicitly teach wherein the method further includes the step wherein one of more plurality of said plurality of nodes clustering is performed by a nested method in which network nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes.

However Johnson, in a similar field of endeavor, teaches a system and method

for management of connection oriented networks including the step of:

clustering is performed by a nested method in which network nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes (Johnson: e.g., the sub-classes are already nested within classes, but the comparison of the sub-classes will be considered as an aspect of determination of the best classes, which would include their attributes, col.10, lines 20-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Johnson in the teachings of Harmer/George/Scheutze in order to implement additional attributes need for clustering. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Harmer/George/Scheutze/Johnson to help optimize the interaction between the participants of the system by implementing the additional clustering within the cluster to determine the best case for the participants of the system.

Regarding Claim 27, this computer readable storage medium claim comprises limitation(s) substantially the same, as those discussed on claim 3 above, same rationale of rejection is applicable.

Regarding Claim 28, this computer readable storage medium claim comprises limitation(s) substantially the same, as those discussed on claim 4 above, same rationale of rejection is applicable.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of George in further view of Scheutze and in further view of Solotorevsky (US 2005/0010571) (referred herein after as Solotorevsky 2)

Regarding Claim 5, the combined teachings of Harmer/George/Scheutze teach the method of claim 2 as discussed above.

The combined teachings of Harmer/George/Scheutze do not explicitly teach wherein the method comprises the steps of:

forming network delay maps and on the forward capacity maps from the obtained network attributes, and such that clustering is based on the formed network delay maps and on forward capacity maps.

However, Solotorevsky 2, in a similar field of endeavor, such as a system and method for generating policies for a communication network, discloses wherein further comprising forming forward capacity maps (e.g., maps calculated requirements such as forward capacity (e.g., bandwidth capacity) in a graphical representation of the network, par [0056], as demonstrated in fig.3 and network delay maps (e.g., delay, if is a network requirement that is calculated, may also be demonstrated in a graphical representation of the network as discussed in par [0060]), such that clustering is based on the formed

network delay maps and on forward capacity maps (e.g., for each expected network requirement, each expected network requirement may be mapped to the elements of the symbolic network representation and its probability to demand the type of use it needs may be derived from (e.g., delay and bandwidth capacity), par [0060]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Solotorevsky 2 in Harmer/George/Scheutze to be able to have a symbolic representation of the constraints on the network. One of the ordinary skill in the art at the time the invention was made, would have been motivated to combine the teachings of Harmer/George/Scheutze and Solotorevsky 2 to be able to visually analyze a network map based on the specific network attributes and constraints that were obtained.

14. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of George and in further view of Scheutze and in further view of Tang et al. (US 2005/0076137) (referred herein after as Tang).

Regarding Claim 10, the combined teachings of Harmer/George/Scheutze teach the method of claim 2 as described above.

The combined teachings of Harmer/George/Scheutze do not explicitly teach wherein the method further comprises the step of clustering is based on weighted distance function modeled from normalized attribute subspace metrics.

However, Tang, in a similar field of endeavor, teaches a method of utilizing

proximity information in an overlay network, including wherein the method further comprises the step of:

clustering is based on weighted distance function (e.g., RTT) modeled from normalized attribute subspace metrics (par [0058]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Tang in the teachings of Harmer/George/Scheutze, in order to be able to be able to consider distance measurements. One of ordinary skill in the art at the time the invention was made, would have been motivated to combine the teachings of Harmer/George/Scheutze and Tang to be able to determine the distance of the nodes within a network overlay.

15. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of Scheutze and in further view of Posey Jr. (US 7,184,444) (referred herein after as Posey).

Regarding Claim 25, the combined teachings of Harmer and Scheutze teach the method of Claim 1 as described above.

The combined teachings of Harmer and Scheutze do not explicitly teach the step wherein the forming comprises basing the single feature vector on one or more quality of service requirements.

However, Posey in a similar field of endeavor discloses a system and method for packet classification including the step of forming a feature vector further comprises

basing the single feature vector on one or more quality of service requirements (e.g., the classification index module creates a quality of service parameter vector, col.7, lines 15-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Posey in the combined teachings of Harmer/Scheutze in order to satisfy Quality of Service requirements mandated by the user nodes. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Harmer/Scheutze to help minimize system resource requirements such as network bandwidth.

16. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of Schuetze and in further view of Grimm.

Regarding Claim 23, the combined teachings of Harmer and Schuetze teach the method of claim 1 as discussed above.

The combined teachings of Harmer and Scheutze do not explicitly teach the step of:

obtaining network path loss information, and such that clustering is based on the path loss information.

However, Grimm in a similar field of endeavor discloses an object-oriented method for matching clients together with servers according to attributes included in joint request including the step for:

obtaining network path loss information (e.g., packet-loss rate, col.8, lines 65-66), and such that clustering is based on the path loss information (e.g., match maker will consider network path loss (packet-loss rate) as part of matching up clients, col.9, lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Grimm in the combined teachings of Harmer/Scheutze to obtain network path loss information and to cluster clients based on this information. One of ordinary skill in the art at the time the invention was made would have been motivated to combine all of the teachings of Harmer/Scheutze/Grimm to help optimize the functionalities of collaborative applications according to obtained network attributes on the system.

17. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Harmer in further view of Scheutze and in further view of Solotorevsky 2.

Regarding Claim 21, the combined teachings of Harmer and Scheutze teach the method of claim 1 as discussed above.

The combined teachings of Harmer and Scheutze do not explicitly teach wherein the method comprises the steps of:

forming network delay maps and on the forward capacity maps from the obtained network attributes, and such that clustering is based on the formed network delay maps and on forward capacity maps.

However, Solotorevsky 2, in a similar field of endeavor, such as a system and method for generating policies for a communication network, discloses wherein further comprising forming forward capacity maps (e.g., maps calculated requirements such as forward capacity (e.g., bandwidth capacity) in a graphical representation of the network, par [0056], as demonstrated in fig.3 and network delay maps (e.g., delay, if is a network requirement that is calculated, may also be demonstrated in a graphical representation of the network as discussed in par [0060]), such that clustering is based on the formed network delay maps and on forward capacity maps (e.g., for each expected network requirement, each expected network requirement may be mapped to the elements of the symbolic network representation and its probability to demand the type of use it needs may be derived from (e.g., delay and bandwidth capacity), par [0060]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Solotorevsky 2 in Harmer/Scheutze to be able to have a symbolic representation of the constraints on the network. One of the ordinary skill in the art at the time the invention was made, would have been motivated to combine the teachings of Harmer/Scheutze and Solotorevsky 2 to be able to visually analyze a network map based on the specific network attributes and constraints that were obtained.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

19. Reply to a final rejection or action must include cancellation of, or appeal from the rejection of, each rejected claim. If any claim stands allowed, the reply to a final rejection or action must comply with any requirements or objections as to form (see 1.113). If prosecution in an application is closed, an applicant may request continued examination of the application by filing a submission and the fee set forth in § 1.17(e) prior to the earliest of: (c) A submission as used in this section includes, but is not limited to, an information disclosure statement, an amendment to the written description, claims, or drawings, *new arguments, or new evidence in support of patentability*. If reply to an Office action under 35 USC 132 is outstanding, the submission must meet the reply requirements of § 1.111 (see MPEP 706.07)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY MEJIA whose telephone number is

(571)270-3630. The examiner can normally be reached on Mon-Thur 9:30AM-8:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art Unit 2451

/A.M./
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